CLAIMS

1. A sample/collection container for automated processing of a plurality of samples on solid supports, the container comprising:

a plurality of sample wells, each sample well dimensioned to receive and retain a solid support and to permit a solution to flow past the solid support; and

a plurality of collection wells disposed to receive and retain solution that flows past the solid support, wherein each collection well of the plurality corresponds to one sample well, and wherein the solution removes at least a portion of the plurality of samples for collection in the collection wells.

2. The sample/collection container of Claim 1, wherein the plurality of sample wells is disposed within a sample container, each sample well having a drain connected thereto, wherein, when centrifugal force is applied to the sample container, the solution in the sample well is forced into the corresponding drain leaving the solid support in the sample well, and the plurality of collection wells are disposed in a collection container so that each drain of the sample container is directed to a corresponding collection well so that the solution is transferred from the sample well into the collection well.

3. The sample/collection container as in Claim 1, wherein the collection well has a bottom adapted to conform to a heating plate for distributing heat to the collection wells.

4. The sample/collection container as in Claim 1, wherein each of the sample/collection container has 96 wells.

5. The sample/collection container of Claim 1, wherein the solid supports are selected from the group consisting of loose beads, tubes, pins, crowns, disks, balls, cubes, blocks, and porous containers containing resin particles or beads.

6. The sample/collection container of Claim 1, wherein each sample well is configured as a column with a plurality of porous plugs disposed therein for retaining the solid support and a biological sample therebetween.

7. The sample/collection container of Claim 1, wherein the sample wells and collection wells are integrated within a single container and further comprising a restriction disposed between each sample well and its corresponding collection well so that the solid support is retained in the sample well while the solution is permitted to pass through to the collection well.

8. The sample/collection container of Claim 7, wherein the restriction comprises at least one protrusion extending radially into the well for restricting the inner diameter of the well to prevent the solid support from dropping to the bottom of the well.

9. The sample/collection container of Claim 8, wherein the at least one protrusion comprises a rib, ridge, ring or tab.

10. A sample/collection container for automated processing of a plurality of samples on solid supports, the container comprising:

a sample container having an array of sample wells formed therein, each sample well dimensioned to receive a sample on a solid support and having a drain connected thereto, wherein, when centrifugal force is applied to the sample container, a solution in the sample well is forced into the corresponding drain leaving the solid support in the sample well;

a collection container removably attached to a bottom of the sample container, the collection container having an array of collection wells corresponding to the array of sample wells so that each drain of the sample container is directed to a corresponding collection well so that the solution is transferred from the sample well into the collection well.

11. The sample/collection container as in Claim 10, wherein the collection well has a bottom adapted to conform to a heating plate for distributing heat to the collection wells.

12. The sample/collection container as in Claim 10, wherein each of the sample/collection container has 96 wells.

13. The sample/collection container of Claim 10, wherein the solid supports are selected from the group consisting of loose beads, tubes, pins, crowns, disks, balls, cubes, blocks, and porous containers containing resin particles or beads.

14. The sample/collection container of Claim 9, wherein each sample well is configured as a column with a plurality of porous plugs disposed therein for retaining the solid support and a biological sample therebetween.

15. A sample/collection container for automated processing of samples on solid supports, the container comprising:

a plurality of wells, each well having a first inner diameter at an upper portion and a second inner diameter smaller than the first inner diameter at a lower portion, wherein the second inner diameter is smaller than the solid support so that the solid support is retained in the well above the lower portion.

16. The sample/collection container of Claim 15, wherein the lower portion comprises at least one protrusion extending radially into the well for reducing the first inner diameter of the well to prevent the solid support from dropping to the bottom of the well.

17. The sample/collection container of Claim 16, wherein the at least one protrusion comprises a rib, ridge, ring or tab.

18. The sample/collection container as in Claim 15, wherein the collection well has a bottom adapted to conform to a heating plate for distributing heat to the collection wells.

19. The sample/collection container as in Claim 15, wherein each of the sample/collection container has 96 wells.

20. The sample/collection container of Claim 15, wherein the solid supports are selected from the group consisting of loose beads, tubes, pins, crowns, disks, balls, cubes, blocks, and porous containers containing resin particles or beads.

21. A method of automated treatment of a plurality of biological or chemical samples on solid supports, the method comprising:

placing a sample and solid support in a sample well within a sample/collection container comprising a plurality of sample wells;

loading the sample/collection container onto a centrifuge rotor;

before or after loading the sample/collection container onto the centrifuge rotor, dispensing a solution into each well of the plurality of wells;

spinning the centrifuge rotor at a first speed, wherein the first speed is selected to minimize creep between the sample wells; and

spinning the centrifuge rotor at a second speed higher than the first speed to concentrate a solution containing the sample in the bottom of a collection well, wherein the second speed is selected to minimize bumping.

22. The method of claim 21, wherein the second speed is further selected to transfer the solution containing the sample through a drain into a separate collection well.